

the foot on each side: to these were added, afterwards, an under splint, to give more effective support and steadiness to the limb. The constant tendency to displacement, was not effectually prevented by common tapes and bandages: as these became slack, the leg assumed its former distorted position; and thus motion was given to the broken ends of the bone, in adjusting the line of the limb. To avoid this, which was not practicable by means of straps or bandages, a tourniquet was applied at either end of the splint. The length of lever enabled the upper tourniquet to act with great power on the foot, and to keep it in a straight line with the thigh. The lower one was kept firmly screwed to the heel of the two splints; thus keeping the foot firmly secured, and giving steadiness to the action of the upper tourniquet. This plan of keeping the tapes of the tourniquets tight prevented motion or displacement in the ends of the bones. It was at one time contemplated to substitute the white-of-egg bandage, in place of the splints; but the attempt was unsatisfactory, as displacement of the limb gradually took place; and we were compelled again to have recourse to the method which had answered our purpose so well, with the addition of a long outside pad on the fibula.

"The process of union and of consolidation, was necessarily tedious, from the limited points of contact between the sawn ends of the bone and the space which had to be filled up on its inner part. It was not till the beginning of January, that union could be said to have taken place; as before that time, the limb would slightly yield, when released from the splints. On the 18th of January, the wound having been some time closed, and the bone seeming to be firmly united, Sir Astley Cooper, in the presence of Mr. Atkins and Mr. Balderson, who had unremittingly watched the progress of the case, made a careful examination of the leg, and pronounced it to be united and firm. The fibula, though deviating but little from its usual appearance, had not become quite firm in its new position; the ligaments remaining weak, and unable to sustain it without allowing some slight lateral motion. It was deemed advisable, while the external callus was forming and acquiring firmness, to continue the splints with common bandages and fillets. This precaution was also rendered necessary, by the possibility of the newly-formed cartilage contracting before bone had been deposited in sufficient quantity to give it solidity. The length of the limb appeared little less than its fellow, when they were laid together parallel to one another."

On the 10th of March, 1839, the date of the last report, the leg continued in good position; but the cicatrization of the wound had been retarded, by the coming away of several small portions of bone; in other respects, the patient was doing well.—ED.]

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ARTICLE VIII. *Notice of the Scarlet Fever as it occurred in the Valley of Virginia and in the counties of Loudon and Fauquier in the year 1832; and of the Treatment which proved the most successful.* By H. D. MAGILL, M. D., of Virginia.

IN the year 1832, the scarlet fever made its appearance in the northern counties of the Valley of Virginia; and extended its ravages across the Blue Ridge mountains, into the contiguous counties of Loudon and Fauquier. It was attended with dreadful fatality.

The depleting plan of treatment was at first universally adopted in the Valley. In some instances, during this mode of treatment, the patient sunk

under the first bleeding, and either died immediately or languished for a few days in a state of hopeless debility. In other cases the free operation of cathartics given to reduce inflammatory action seemed to exert a highly deleterious influence by prostrating the afflicted. In many instances when depletion was used under the most favourable circumstances, gangrene, and sloughing, ensued in and around the orifice made by the lancet; and it was not an uncommon occurrence for blisters to mortify.

But it might be asked; what was the condition of the patient subjected to this plan of treatment? was depletion contra-indicated by the symptoms? Not at all; the symptoms seemed imperiously to call for such a course. The pulse exhibited a high grade of arterial action, the brain appeared to be frequently in a state of congestion; generally there was considerable delirium and occasionally much oppression about the pulmonary regions. Bloodletting and free purging appeared to be absolutely necessary in order to reduce the excitement to a proper standard; in some cases it seemed to be required, to prevent disorganization of the brain on the lungs, threatened by violent excitement or over-powering congestion.

The writer, residing and practising his profession in one of the Valley counties at the time, was an eye witness to the above facts. Soon after the appearance of scarlatina in the Valley, it broke out in the country east of the Blue Ridge mountains; and showed itself extensively in the counties of Loudon and Fauquier. The same system of practice was adopted that was pursued in the Valley of Virginia; with precisely the same results; for the mortality was frightful. There was one exception to this course;\* one physician had sagacity enough to detect the erroneous views entertained of the disease, and firmness enough to differ from his professional brethren in the course he pursued; having adopted the old established doctrines with regard to the disease, upon which he practised with some modification, and with the most distinguished success. His loss did not exceed two per cent. He was frequently called to the aid of those who pursued the depleting plan, and generally by his simple mode of treatment, succeeded in snatching from the grave, patients who had previously been considered in a hopeless condition. Soon after the great epidemic of 1832, the writer removed from the Valley to the county of Loudon, where he has since pursued his profession. Influenced by the ill success of the depleting plan, he has since practised after the mode pursued by the above mentioned physician, with entire success; and can state the fact that whilst death has been common from scarlatina in the neighbouring counties, and several in this vicinity have died when a different mode of managing it was adopted, but one has occurred in the range of his observation, that was treated after this mode. It is proper that the writer should introduce, previous to entering upon the treatment of scarlatina, extracts from several letters, in answer to a call for information on the

\* Dr. W. L. Powell of Leesburg Virginia.

subject, and the mode of treatment pursued; as they will confirm the statement made by him. Two will be sufficient. The one is taken from the letter of a gentleman who stood at the head of his profession in the Valley; the other is from a physician of extensive practice in the upper part of Loudon and Fauquier counties. "With respect to the treatment (says the former) I believe I tried every plan recommended by the best writers, and am equally dissatisfied with them all. The emetic plan recommended by our old professor Rush failed to arrest the disease, and I think frequently increased the inflammation of the stomach and throat. The bleeding plan recommended by Armstrong proved equally objectionable; in the simpler form it was unnecessary, and in the malignant it prostrated the patient. The punctures frequently mortified. Cold affusions recommended by Dr. Currie, moderated the excitement, but failed to arrest the disease. Blisters should never be applied, they so frequently become gangrenous, that I feel astonished they should ever have been recommended."

The remarks of the latter physician, above alluded to, are as follows:

"The number of patients I have visited, since the 1st of April is 136; of this number I have lost 14;\* five died within a few hours after *my first visit*, leaving nine with whom I had any possible chance. All the cases attended with cerebral inflammation *either in my own practice, or that of others as far as I can ascertain, died*. In my treatment, I have paid no regard to the name of the disease whatever, but have endeavoured to accommodate the remedies as nearly as I could to the different grades and symptoms which presented at each visit. The majority of the cases were of the anginose kind, and very violent. In these I constantly *bled until nausea or faintness* was induced. Next I generally gave an emetic and cathartic combined, and kept up a catharsis for a day or two, with pretty large doses of calomel; and during the intervals I gave broken doses of ant. tart.; sometimes muriate of ammonia in conjunction with calomel and tart. I used cold ablutions very freely, and often enough to keep down the temperature of the skin. In using the cold bath *I paid no regard to the eruption*; as this appears to have no control over the disease; and in very many cases does not make its appearance at all. I have frequently cupped and blistered behind the ears, on the back of the neck, and on the chest; but have done so with a trembling hand, as the latter are generally very hard to cure and once or twice became gangrenous. So much for our epidemic. I cannot boast of having given you any thing new or successful."

*Treatment.* If called in immediately after the attack, ipecacuanha should be administered so as to cause free vomiting. Should the first dose not have this effect, it ought to be repeated until it succeeds. The preparations of antimony are objectionable, inasmuch as they are calculated to increase the

\* This letter was written in June, 1833; how many died afterwards can not be ascertained.

local irritation of the stomach, which in every severe case amounts almost to phlogosis. If there seems to be a necessity for keeping up a slight nausea, it should be done by small doses of ipecacuanha. Much mischief has been done by the use of tartar emetic in scarlatina.\* The writer was lately called upon to see a case in which paralysis of the stomach existed, evidently caused by the presence of this article within an inflamed mucous membrane. After free emesis has been produced, every effort should be directed to the surface. By bathing the feet and legs, in warm water; and making applications of hot bricks; and bottles filled with hot water, to the extremities, and body, in conjunction with warm herb teas, such as an infusion of saffron, mentha pulegium, hoarhound, &c. diaphoresis will generally be induced; which can afterwards be easily maintained, by covering up the patient tolerably warm, and continuing the use of the sudorific teas above mentioned. It will frequently be found necessary, should the tongue be loaded and the discharge of a light complexion, to give a moderate quantity of calomel in the commencement; but this should not be repeated unless circumstances imperiously demand it; inasmuch as the continued use of mercury might produce an irritable state of the stomach and intestinal canal which would seriously interfere with the well-doing of the patient. The bowels should be kept gently open by the mildest and most soothing cathartics, such as the ol. ricini, of which a small dose may be given every twelve or twenty-four hours, according to circumstances. In most cases there will be an evident exacerbation, every evening, accompanied with more or less delirium. This can generally be relieved by gently increasing the cathartics, putting the first in warm water, and giving warm herb teas. If the stomach should be irritable† repeat the emetic as at first administered. In one instance where the lungs were considerably affected the writer prescribed an emetic every evening for several days with marked advantage. All the unpleasant symptoms give way, including the delirium, upon producing diaphoresis by these means. In cases where the disease obstinately resists every effort to effect diaphoresis, perseverance in the use of the foregoing remedies will generally produce it at last. To prevent inflammation of the throat and to relieve it if it should occur, the mouth, and pharynx should be gargled every three or four hours, with an infusion of cayenne pepper; and if the patient should swallow a portion of it, there will be no injury sustained. Should ulceration supervene, equal parts of the tinct. of Peruvian bark and myrrh should be used as a gargle. The swelling of the glands may be discussed by an application of hops steeped in hot vinegar, and thickened into the consistence of a poultice by bran or corn meal. The diet should be mildly nourishing and the drinks all warm. It is an important part of the remedial

\* The effect of tartar emetic upon a highly irritable stomach is a well known fact. I feel surprised it should ever have been used in Scarlatina.

† When the vomiting is excessive, it will be promptly checked by the mint julep.

course that not more than one or two patients should be kept in the same room. Perfect quietude should be enjoined.

In the commencement of the attack should the pulse be strong and corded, and should this condition of the circulation be attended with great congestion of the brain or lungs; there can be no doubt about the propriety of extracting a small quantity of blood either by cups, or leeches, and even by the lancet; but generally this state of things can be relieved by diaphoresis brought on by the before mentioned means, conjoined with the use of sinapisms; which should never be suffered to remain on long enough to produce vesication. In this state of cerebral congestion emesis is produced with great difficulty, but whenever it can be with facility effected, it generally relieves the brain.

Cases sometimes occur, in which the patient is immediately struck down as it were, by a sudden prostration of the vital energies. In such cases the pulse suddenly sinks, the extremities become cold, and the patient appears, almost insensible. Here the system should be roused by sinapisms, and the exhibition of an active stimulant,\* before an emetic is administered. But this should always be given and repeated until active vomiting is produced, so soon as the system appears to be sufficiently revived, for the stomach to be sensible of the presence of the medicine, and this should be followed by all the means necessary to keep up a determination to the surface.

Should ulceration and sloughing of the throat occur whatever may be the state of the pulse, the plan of treatment should be decidedly tonic. The Peruvian bark in tincture should be freely administered; and very often it will be proper to make free use of some active stimulant, especially if the pulse should be weak and failing. When diarrhœa occurs from swallowing the offensive secretions of the fauces, port wine may be given with advantage. After the disease has run its course, it frequently leaves unpleasant sequences,† such as suppuration of the glands, dropsical effusions, &c. At the same time that the remedies peculiar to such affections are freely administered; the system should be supported, by a generous but easily digested diet; and the use of Port or Madeira wines. Should any obstruction of the abdominal viscera appear to exist, small doses of calomel may be combined with the squills which is usually given to remove the dropsical swellings. Perhaps the most effectual mode of restoring tone to the skin, is the use of the warm salt bath.

But in treating of the secondary symptoms of scarlatina I speak of what seldom occurs, when the foregoing plan of treatment has been pursued. That shattered state of the system which gives rise to such consequences does not often take place, when the disease is managed after this manner. As a proof of this fact I refer to the experience of those who have tried it.

\* Mint julep has been given with great advantage.

† Dr. Fowell avers that he is not often troubled with secondary symptoms in his practice; and when they do occur they are generally easily removed.

If called in late, after a different mode of practice has been pursued, particularly if depletion has been carried to any extent, the proper course would be to commence immediately with the bark, for it but seldom happens that depletion does any good unless its effects are immediate. In other words if the patient does not mend promptly, and decidedly under depletion, we may always conclude the system to be in an adynamic condition after the attack has lasted several days. Very frequently in cases so treated, the patient, drops off when least expected, either by friends or physician. The pulse may be tolerably firm, and the general indications of strength cheering; still if the disease is at all severe at this late period, the patient may and does frequently sink with the greatest rapidity. Death in such cases is generally preceded by coma; any approach of which should be viewed with the greatest alarm.

To conclude. In the mild cases of scarlatina, patients will require but little attention; except to prevent them from being exposed to a draught of air keeping up a gentle moisture on the surface, and the bowels open; with *ol. ricini*, or some other mild cathartic. It would also be advisable to wash the throat occasionally with the pepper gargle. In the severe forms, the practitioner's main object should be to produce diaphoresis and steadily maintain it; and at the same time counteract the rapid failure of the system, exhibited in the general, but more particularly, in the local affections, by all the means previously recommended for that purpose.

*Leesburg, Virginia, June, 1839.*